Figure 1

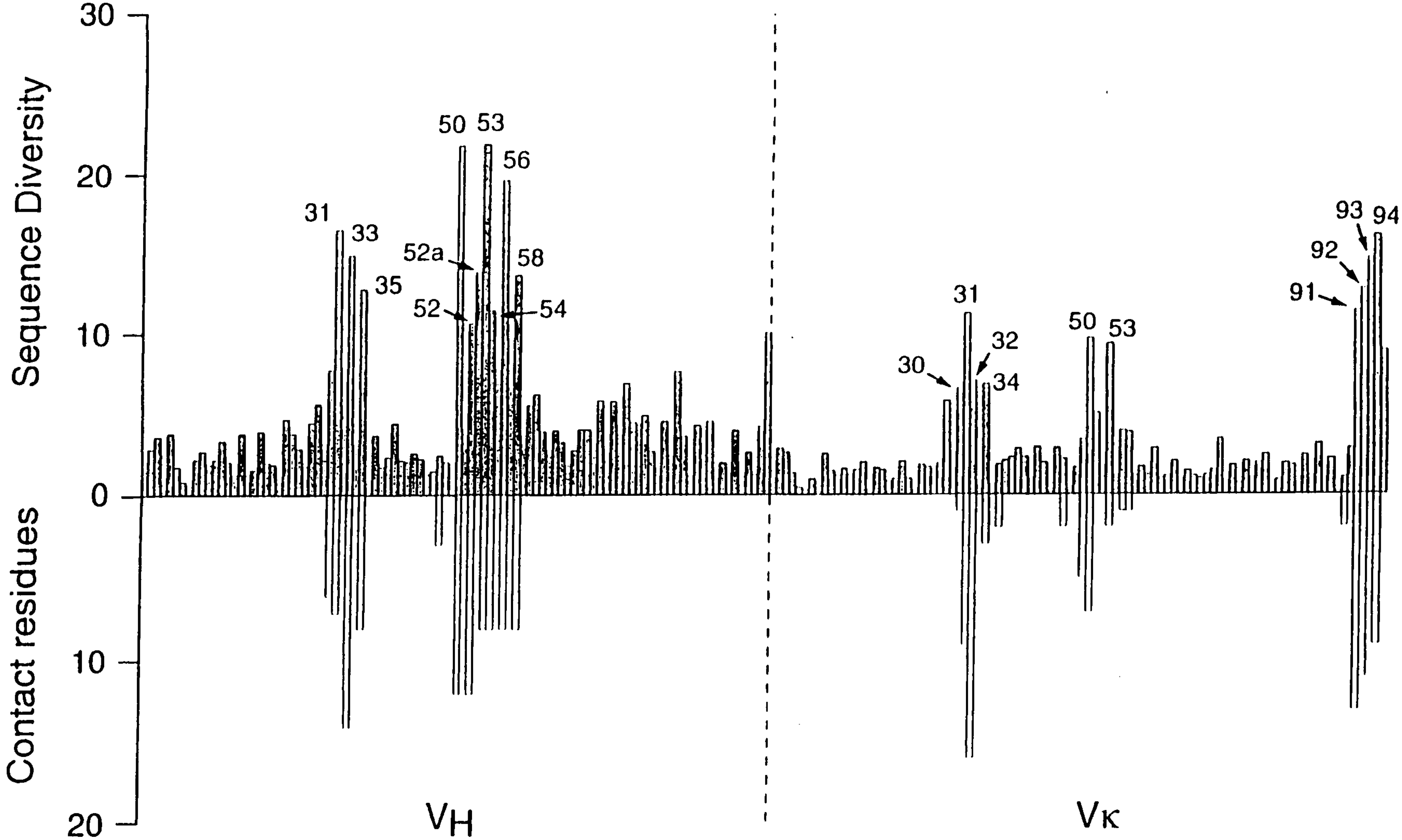
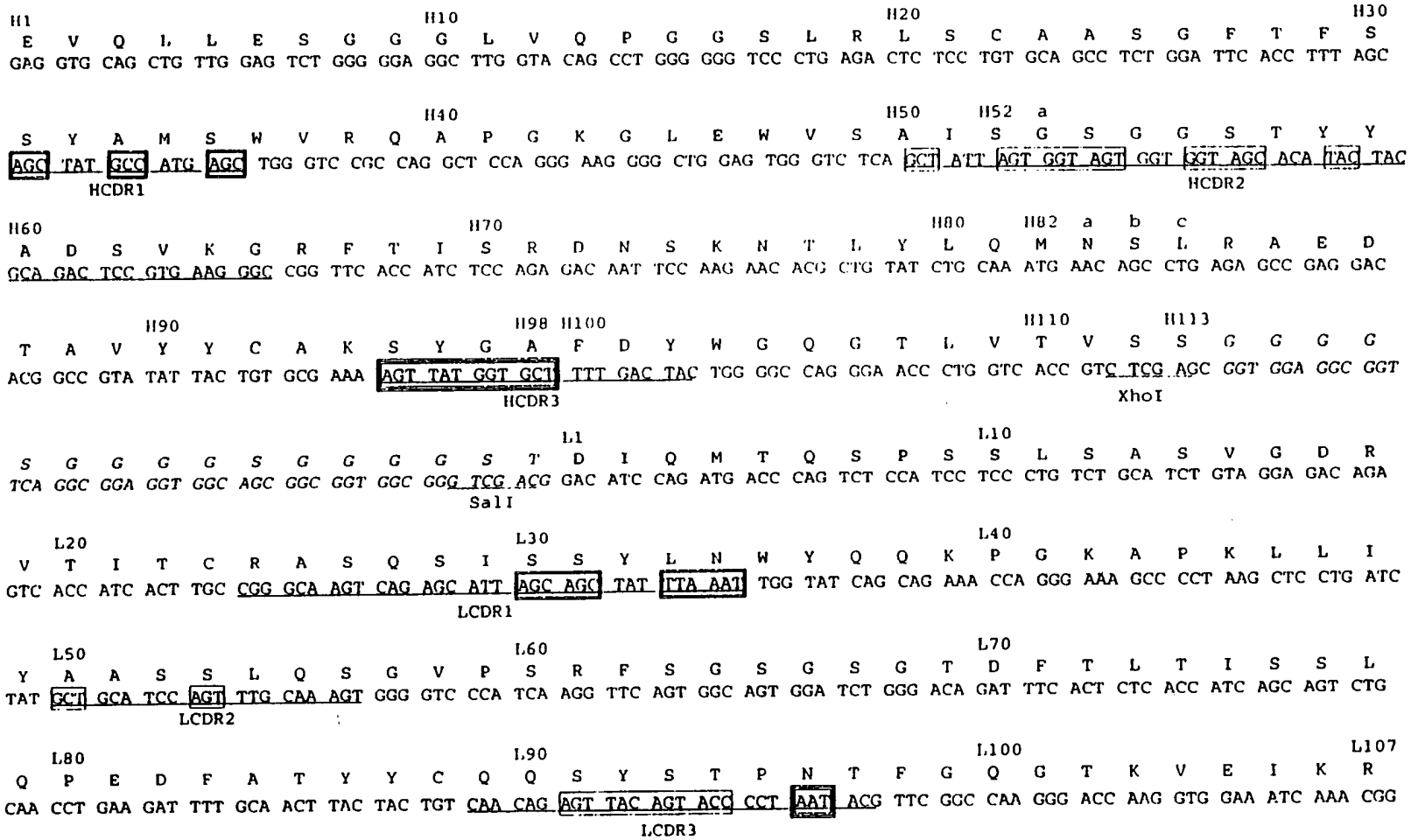
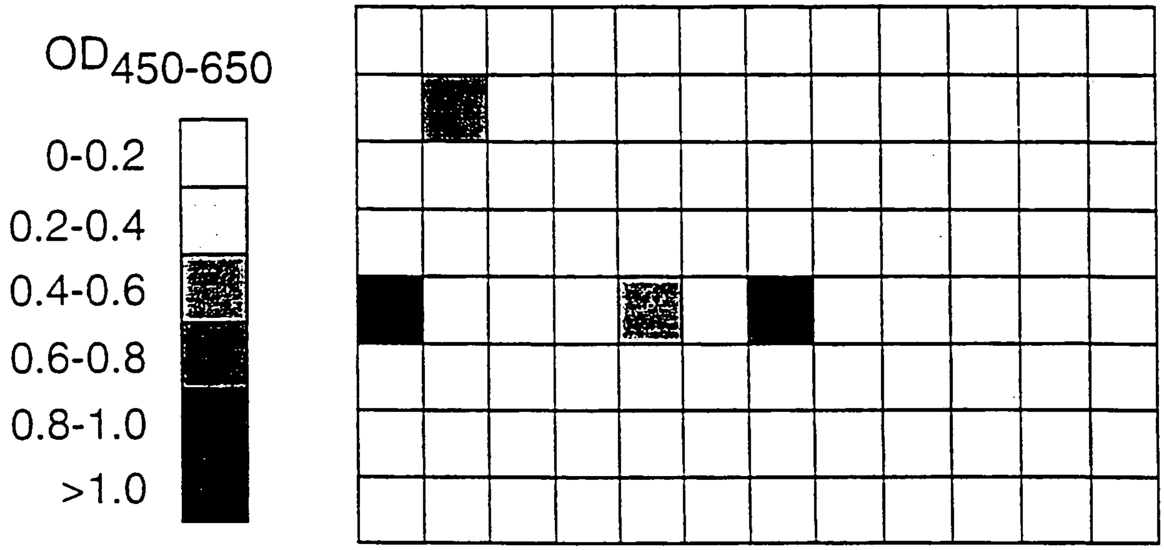


Figure 2



"primary" NNK library before pre-selection



"primary" NNK library after pre-selection

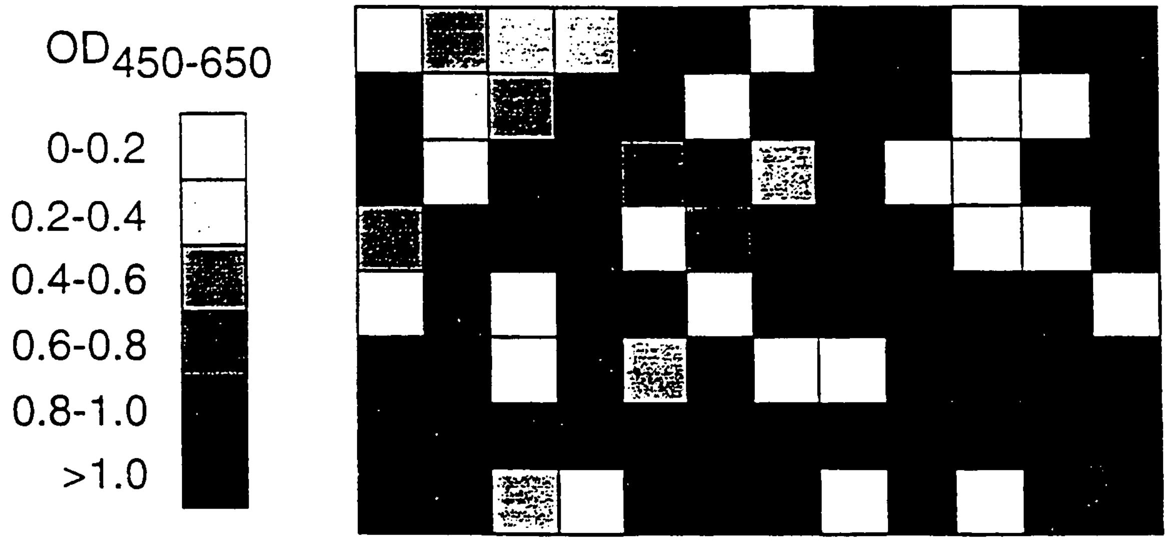


Figure 3

Figure 4

			Heavy chain (framework: DP-47)			Light chain (framework: DPK9)			
Clone's	*Antigen*	*Library*	*CDR1*	*CDR2*	*CDR3*	*CDR1*	*CDR2*	*CDR3*	*No.*
UBI A 1-9	*Bovine ubiquitin*	*Primary NNK*	SYAMS	IIGSEGWPTIYADSVKG	GGSMFDY	RASQSISSYLN	RASSLQS	QQSSNTPYT	9
UBI B 1,3-10	"	*Somatic NNK*	AYAMT	AISGSGGSTYYADSVKG	KASSFDY	RASQSISSYLN	AASSLQS	QQSYSTPST	9
BIP A 1-3,6,9	*Rat BIP*	*Primary NNK*	SYAMS	LISPLGKDTSYADSVKG	RAGIFDY	RASQSISSYLN	HASRLQS	QQYRLRPLT	5
BIP A 4	"	"	SYAMS	GIRRVGQATSYADSVKG	GGRLFDY	RASQSISSYLN	YASHLQS	QQYLLDPVT	1
BIP A 5,7,9	"	"	SYAMS	AINTKGMTTDYADSVKG	GSQAFDY	RASQSISSYLN	QASFLQS	QQGYNKPRT	3
BIP B 1-4,6-10	"	*Somatic NNK*	NYQMH	AISGSGGSTYYADSVKG	GTRRFDY	RASQSISSYLN	AASSLQS	QQSYSTPVT	9
HIS A 1,2,7-8	*Bovine Histone*	*Primary NNK*	SYAMS	AISPKGRRTYYADSVKG	RDKLFDY	RASQSISSYLN	EASTLQS	QQEKMVPLT	4
HIS A 6	"	"	SYAMS	RITPAGRRTTYADSVKG	PSPPFDY	RASQSISSYLN	HASILQS	QQGQHRPLT	1
HIS A 3,9	"	"	SYAMS	RITPAGHRTYYADSVKG	QVSRFDY	-	-	-	2
HIS A 10	"	"	SYAMS	TISPQGLRTTYADSVKG	GRPRFDY	-	-	-	1
HIS A 4	"	"	SYAMS	TISPKGRSTTYADSVKG	TNRSFDY	RASQSISSYLN	RASRLQS	QQRAKKPPT	1
HIS B 1,3	"	*Somatic NNK*	KYRMF	AISGSGGSTYYADSVKG	GRWPFDY	RASQSINENLS	AASSLQS	QQSYSTPHT	2
HIS B 6	"	"	RYRMH	AISGSGGSTYYADSVKG	NEPRFDY	RASQSIFMRLN	AASSLQS	QQSYSTPST	1
HIS B 2	"	"	RYRMG	AISGSGGSTYYADSVKG	GYRKFDY	RASQSISTLLN	AASSLQS	QQSYSTPLT	1
HIS B 4,7,9	"	"	RYRMG	AISGSGGSTYYADSVKG	GYRKFDY	RASQSIGPFLS	AASSLQS	QQSYSTPPT	3
HIS B 5,8	"	"	RYRMG	AISGSGGSTYYADSVKG	GYRKFDY	RASQSILRTLN	AASSLQS	QQSYSTPGT	2
NIP A 2,7,10	*NIP-BSA*	*Primary NNK*	SYAMS	RIPARGTVTHYADSVKG	GGLRFDY	RASQSISSYLN	HASALQS	QQSYRKPTT	3
NIP A 3	"	"	SYAMS	GISHTGSNTRYADSVKG	RHKGFDY	RASQSISSYLN	RASTLQS	QQGYRFPAT	1
NIP A 5,6,9	"	"	SYAMS	RIAPEGGRTKYADSVKG	GRYWFDY	RASQSISSYLN	RASRLQS	QQSRNAPTT	3
NIP A 1,8	"	"	SYAMS	TISYLGEKTRYADSVKG	SRRTFDY	RASQSISSYLN	KASTLQS	QQRSRPPAT	2

Figure 4 Cont.

NIPB1	"	*Somatic NNK*	RYGMH	AISGSGGSTYYADSVKG	RGLGFDY	RASQSISSYLN	AASSLQS	QQSYSTPLT	1
NIPB2-4,7	"	"	SYRMV	AISGSGGSTYYADSVKG	RGMAFDY	RASQSIHSRLS	AASSLQS	QQSYSTPLT	4
NIPB5,6	"	'	KYNMH	AISGSGGSTYYADSVKG	ARWRFDY	RASQSISSYLN	AASSLQS	QQSYSTPIT	2
NIPB8	"	"	RYRMH	AISGSGGSTYYADSVKG	TPRPFDY	RASQSIQMGLS	AASSLQS	QQSYSTPNT	1
NIPB9	"	"	RYRMH	AISGSGGSTYYADSVKG	TPRPFDY	RASQSISENLL	AASSLQS	QQSYSTPLT	1
10CG1	*FITC-BSA*	*Primary NNK*	SYAMS	TISPYGKQTRYADSVKG	KSQHFDY	RASQSISSYLN	AASRLQS	QQRGGGPPT	1
10CG2	"	"	SYAMS	TITPRGSLTSYADSVKG	TAPPFDY	RASQSISSYLN	RASRLQS	QQSQRKPST	1
10CG3	"	"	SYAMS	GISAYGTVTYYADSVKG	RRAGFDY	RASQSISSYLN	RASRLQS	QQPRHMPQT	1
10CG5	"	"	SYAMS	SITNSGLATAYADSVKG	RSFRFDY	RASQSISSYLN	HASRLQS	QQRHTNPPT	1
10CG6	"	"	SYAMS	GITTRGQTTRYADSVKG	TYPKFDY	RASQSISSYLN	NASRLQS	QQSKLSPVT	1
10CG7	"	"	SYAMS	TIPARGGHTKYADSVKG	SAKAFDY	RASRSISSYLN	QASNLQS	QQRSAGPLT	1
10DH1	"	*Somatic NNK*	MYRMG	AISGSGGSTYYADSVKG	RTFRFDY	RASQSIRSRLS	AASSLQS	QQSYSTPRT	1
10DH2,3	"	"	SYAMT	AISGSGGSTYYADSVKG	KTGMFDY	RASQSIRTRLR	AASSLQS	QQSYSTPRT	2
11CG1	*Human leptin*	*Primary NNK*	SYAMS	AINRRGSATRYADSVKG	YLHTFDY	RASQSISSYLN	RASRLQS	QHPGLRPGT	1
11CG2,3	"	"	SYAMS	AINRRGSATRYADSVKG	YLHTFDY	RASQSISSYLN	AASALQS	QQSDLPPST	2
11DH2	"	*Somatic NNK*	RYRMW	AISGSGGSTYYADSVKG	RPSTFDY	RASQSIAKNLS	AASSLQS	QQSYSTPST	1
11DH3	"	"	RYRMW	AISGSGGSTYYADSVKG	RPSTFDY	RASQSIKQRLH	AASSLQS	QQSYSTPST	1
12CG1,2	*Human thyroglobulin*	*Primary NNK*	SYAMS	SIAPAGRHTYYADSVKG	NIRIFDY	RASQSISSYLN	SASRLQS	QQRAGTPVT	2
12CG3	"	"	SYAMS	GITMTGRTTKYADSVKG	NSMIFDY	RASQSISSYLN	QASRLQS	QQRVLRPPT	1
12DH1,2,3	"	*Somatic NNK*	RYPMS	AISGSGGSTYYADSVKG	GFYAFDY	RASQSIVRVLT	AASSLQS	QQSYSTPHT	3
13CG1	*BSA*	*Primary NNK*	SYAMS	TITASGPNTRYADSVKG	NHSTFDY	RASQSISSYLN	RASHLQS	QQNRTAPRT	1
13CG2	"	*Primary DVT*	SYAMS	TIYYAGSNTYYADSVKG	GYYTFDY	RASQSISSYLN	YASNLQS	QQSDTSPTT	1

Figure 4 Cont.

13 CG 3	"	*Primary NNK*	SYAMS	MIYPGGY-TKYADSVKG	NADLFDY	RASQSISSYLN	TASRLQS	QQMRRKPAT	1
13 DH 1	"	*Somatic NNK*	LYNMV	AISGSGGSTYYADSVKG	EWSRFDY	RASQSISKSLI	AASSLQS	QQSYSTPKT	1
13 DH 2	"	"	GYYMS	AISGSGGSTYYADSVKG	THDSFDY	RASQSIDRYLN	AASSLQS	QQSYSTPIT	1
13 DH 3	"	"	RYQMV	AISGSGGSTYYADSVKG	HLSRFDY	RASQSIKYNLA	AASSLQS	QQSYSTPRT	1
14 CG 1,2,3	*Hen egg lysozyme*	*Primary NNK*	SYAMS	EILPRGHRTAYADSVKG	SGKHFDY	RASQSISSYLN	NASTLQS	QQRKRLPET	3
14 DH 2,3	"	*Somatic NNK*	YYEML	AISGSGGSTYYADSVKG	PFMSFDY	RASQSIHQDLV	AASSLQS	QQSYSTPRT	2
19 CG 1,3	*Mouse IgG*	*Primary DVT*	SYAMS	SIGSSGYGTGYADSVKG	GYYSFDY	RASQSISSYLN	DASSLQS	QQSDSSPYT	2
19 DH 2	"	*Somatic DVT*	DYDMS	AISGSGGSTYYADSVKG	DGAGFDY	RASQSIGSSLS	AASSLQS	QQSYSTPNT	1
20 CG 1	*Human IgG*	*Primary NNK*	SYAMS	AISGLGKQTRYADSVKG	GYSRFDY	RASQSISSYLN	SASLLQS	QQLGTPPRT	1
20 DH 1	"	*Somatic NNK*	RYEMS	AISGSGGSTYYADSVKG	SWTLFDY	RASQSIFTNLD	AASSLQS	QQSYSTPPT	1
20 DH 2	"	"	RYEMS	AISGSGGSTYYADSVKG	SWTLFDY	RASQSIGTLLR	AASSLQS	QQSYSTPNT	1

* of clones sequenced

Figure 5a

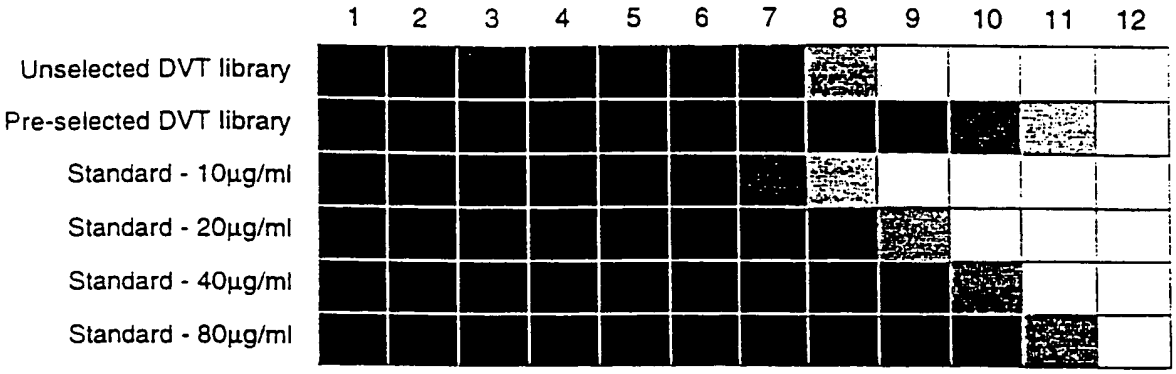


Figure 5b

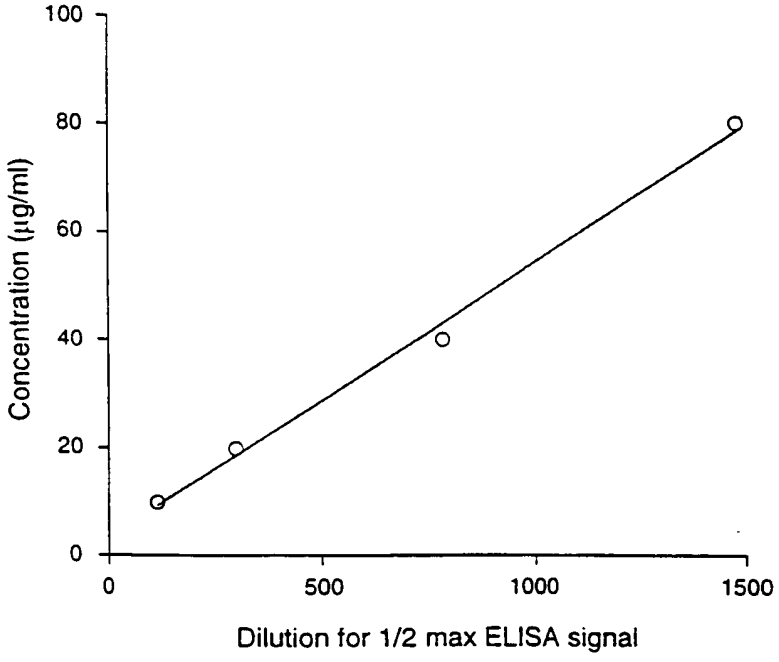


Figure 6